Unlocking High Capacity and Fast Na⁺ Diffusion of HₓCrS₂ by Proton-Exchange Pretreatment

Major contributors: J. W. Stiles¹, C.B. Arnold¹, L. M. Schoop¹ (¹Princeton University)

- Interest in sodium ion batteries is on the rise due to the relative abundance of sodium compared with lithium.
- Proton-exchange of NaCrS₂ results in a new biphasic structure: HₓCrS₂.
- HₓCrS₂ demonstrates faster Na⁺ diffusion and higher capacities than NaCrS₂.

J. W. Stiles¹, A. L. Soltys¹, X. Song¹, S.H. Lapidus², C.B. Arnold¹, L. M. Schoop¹, Adv. Materials (2023), 2209811
Open access: doi.org/10.26434/chemrxiv-2022-9vlcf
¹Princeton University, USA, ²Argonne National Lab, USA